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ABSTRACT

The material presented in this booklet is designed to provide supplemental information and exercises to aid in the development of basic everyday skills in business math. Seven units are presented with each unit containing basic information on the unit topic, followed by student exercises, and a review section. The seven units are (1) check writing (checking accounts, deposit slips, check stubs, writing a check, balancing bank statements); (2) wages (figuring income, deductions, time cards, income tax forms); (3) installment buying (cash versus installment buying, installment price and finance charges); (4) budgets (establishing a budget, special budgeting problems); (5) home expenses (owning a home, utility bills, taxes and insurance, shopping, sales tax); (6) automobile expenses (depreciation, insurance, operating expenses); and (7) metrics (length, capacity, weight). (BL)

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BUSINESS MATH IN EVERYDAY LIFE

by

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Dr. Anne L. Matthews
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Office Occupations Education

INTRODUCTION

The purpose of this booklet is to provide supplemental information and exercises designed to aid in the development of basic everyday skills in business math. Since math is a part of our daily lives, it is important that we have an understanding of the common uses of business math.

Money and the proper handling of money involve each of us from day to day. Checks are today as much a part of life as money itself, and everyone should have an understanding of how checking accounts operate. Home and automobile ownership are big investments that most of us will make some time in our lives. We must be able to compare our income with the expenses for which we may be responsible through daily living. It is important to control our income and to make the most of it. Proper spending is one of the best ways to accomplish this goal as is stressed in many sections of this booklet.

Included in the last unit of this booklet is one of the greatest changes to occur in the use of math--metrics. The metric system, which will eventually enter everyone's life, is becoming more and more important. Conversions from our customary English system of measurement to the metric system will be necessary until we have become familiar with and are able to use the metric system.

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"Should I carry cash or write a check?"

UNIT I

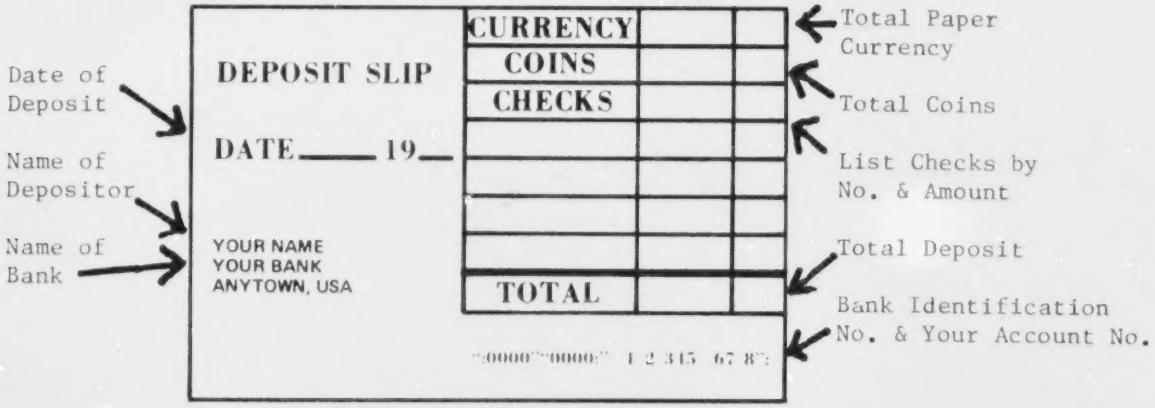
CHECK WRITING

Checking Accounts

Many people prefer to open a checking account with a bank rather than carry a lot of extra cash. Banks are safe and you can be sure that your money is at hand when you need it. Also, you can keep accurate records of all payments you have made by entering on the check stub the amount of the payment and to whom the payment was made. You are able to see how much money you have left by deducting each check written from the balance in the checkbook.

Deposit Slips

First, let's look at the deposit slip that is completed each time you place more money into your checking account.



The date should be entered on the deposit slip to show when the deposit was made. The lines entitled "currency" and "coin" are

used to show any paper bills or coins that are being deposited. Checks that are being deposited should be listed by ABA number and amount. After all the items have been listed, the total is determined by adding currency, coins, and checks. The total is then entered into the last line of the deposit slip.

EXERCISES

1. Jill Adams operates a candy store. She is going to deposit today's money received from sales. She has the following for deposit:

   Four $20 bills
   Eight $10 bills
   Two $2 bills
   Seven $1 bills
   Ten quarters
   Eighteen dimes
   Thirty-two pennies
   A check, Number 17, for $12.50

   (a) What is her total deposit?

   (b) Prepare a deposit slip for her deposit. Use today's date. (Draw your own deposit slip using the deposit slip shown on page 1 as an example.)

2. John Jones makes a deposit of the following items on March 12.

   Two $20 bills
   Seventeen $10 bills
   Four $5 bills
   Two $2 bills
   Four $1 bills
   Eleven quarters
   Six dimes
   Sixteen nickels
   Twelve pennies

   What is his total deposit?

3. Jane Murray received money for her birthday. She decides to deposit the money into her checking account. She received the following:

   Two $10 bills
   Four $5 bills
   3 checks: No. 163, $5.00; No. 212, $10.00; No. 38, $5.00

   Prepare a deposit slip for her using today's date.

"What was the amount of that last check?"

Check Stubs

The check stub is your personal record of the checks you write, to whom, and how much money you have remaining in your checking account. It is extremely important to keep these check stubs accurate to avoid being overdrawn--no money left! It is wise to complete the check stub before writing your check to be certain that your records are kept accurately.

Pictured below is the check stub for a check written by Karen Laney on January 5, 1976.

No. 10		
Balance Brought Forward	312	64
Amount Deposited		
Total	312	64
Date _____ 19 __		
To _____		
For _____		
Amount this Check	35	46
Balance Carried Forward	277	18

Amount brought forward from previous check stub.

Add deposit, if any.

Total in account.

Date check is written.

Receiver of check.

Purpose of writing check.

Amount to be subtracted from total.

Amount now in account to be carried forward to next stub.

Writing a Check

A check is an order to the bank to pay a certain amount of money to the person named on the check. Most banks offer the following rules and suggestions for writing a check:

1. Always write checks as distinctly as possible in ink.
2. Complete the stub first, then write the check.
3. Date each check.
4. Number the checks consecutively, if they are not already numbered.

5. Do not make corrections on a check. If an error is made, write "void" across the front of the check. This prevents anyone from being able to cash the check if it is lost or misplaced before being destroyed. It is best to destroy a check as soon as the mistake is made.

6. Be sure the amount in figures and the amount in words are the same. If they differ, most banks consider the written amount to be the correct amount.

7. Write checks to individuals and to "cash" or "bearer."

8. Never sign a check that has no dollar amount entered.

9. Avoid leaving a blank space where figures or words could be added on a check. Draw lines in these spaces.

Below is the check that corresponds to the check stub mentioned previously.

Karen Laney
First National Bank
Anywhere, USA

NO. 10

March 3 19 --

Pay to the Order of Green's Furniture $ 35.46

Thirty-five and 46/100 DOLLARS

For chair Karen Laney

EXERCISES

1. Find the new checking account balance for the following:

	Previous Balance	Deposits	Checks Written	New Balance
a.	$610.50	None	$32; $40; $10	
b.	924.80	$25; $50	$10; $16.65; $11.50	
c.	1,310.42	$125.50	$65.54; $7.40	
d.	495.86	None	$21.60; $3.95; $14; $24.18	
e.	788.34	$319.80	$46.50; $112; $60	
f.	564.00	$25; $150.05	$12.80; $63.19	

2. Avery Brown's present checking account balance is $256.10. He writes a check for $24.95. Find his new checking account balance.

3. Jan Murphy makes a deposit of $260 to her checking account on April 3. Before making the deposit, her checking account balance is $416.54. She also writes two checks, one on April 3 for $65.50 and one on April 4 for $12.98. What will her checking account balance be on April 5?

"Why doesn't my checkbook ever balance?"

Balancing the Bank Statement and the Checkbook

The bank in which you have your checking account will mail to you each month a statement showing the checks that have been written during the previous month, deposits made to your account, the date the bank paid each check, and the balance remaining in your account.

The following example shows John Doe's bank statement for the month of September. The checks are subtracted from the balance as they are received and paid by the bank. The deposits are added to the balance as they are made.

Bank Name
Address

Account No. _____

John Doe
Anytown, USA

Checks	Deposits	Date	Balance
			1,610.80
22.10		Sept. 3	1,588.70
12.61 18.30		Sept. 7	1,557.79
60.58 9.95	250.00	Sept. 11	1,737.26
	125.00	Sept. 15	1,862.26
37.50 18.00 4.75		Sept. 16	1,802.01
42.16		Sept. 23	1,759.85
150.00	175.50	Sept. 28	1,785.35
1.00 SC*		Sept. 30	1,784.35

*Service Charge - A charge made by some banks for services rendered.

The last balance on the bank statement may not be the same balance as shown in your checkbook. The process of bringing the bank statement balance and the checkbook balance into agreement is known as reconciling the bank balance. The statement used in comparing the two balances and used to bring them into agreement is known as the reconciliation statement.

John Doe's checkbook balance as of September 30 is $1,726.12. His bank statement balance as shown in the previously mentioned bank statement is $1,784.35. The following is a reconciliation of his bank statement:

John Doe
Reconciliation Statement
September 30, 19—

Checkbook Balance	$1,726.12	Bank Statement Balance	$1,784.35
Deduct		Deduct	
Service Charge	1.50	Outstanding Checks:	
		No. 12, $34.50	
		No. 13, $25.23	59.73
Correct checkbook balance	$1,724.62	Correct bank statement balance	$1,724.62

John's reconciliation statement shows that he has $1,724.62 in his checking account. He deducted the service charge from the checkbook balance because the bank had deducted that amount from his checking account as payment for its services. He also deducted the checks, known as outstanding checks, from the bank statement because the bank had not received these checks for payment and had not deducted them from his account.

EXERCISES

Prepare a reconciliation statement for the following, using your name in the heading:

a. March 31, 19--; checkbook balance, $312.54; bank statement balance, $364.50; outstanding checks, No. 14, $30; No. 15, $21.96.

b. June 30, 19--; checkbook balance, $1,510.80; bank statement balance, $1,742.50; service charge, $1.00; outstanding checks, No. 51, $100; No. 56, $75.50; No. 57, $57.20.

Many times the person writing a check will either forget to record a check on the check stub or will enter a wrong figure on the stub. This causes the checkbook to be out of balance. Also, a bank

statement may not show a deposit that was made just before the statement was mailed. These problems should be corrected on the reconciliation statement.

The following reconciliation statement shows examples of the problems mentioned above:

Margaret Hampton's checkbook balance is $515.10. Her bank statement balance is $463.20. She discovers that a check written for $5 60 had been recorded as $6.50. She also notes that the bank has not credited her account for a deposit of $56.40 made on July 29. Also, she finds that sne has not recorded a check for $7.50 on her check stub. There is one outstanding check; No. 46, $11.10.

Margaret Hampton
Reconciliation Statement
August 1, 19--

Checkbook Balance	$515.10	Bank Statement Balance	$463.20
Deduct		Deduct	
Check not recorded	7.50	Outstanding Check	11.10
	507.60		452.10
Add		Add	
*Difference in check error	.90	Deposit not recorded	56.40
Correct Balance	$508.50	Correct Balance	$508.50

*If the amount on the stub had been smaller than the actual amount of the check, the difference would be deducted from the checkbook balance.

EXERCISES

Prepare a reconciliation statement for the following:

1. Jack Roby's checkbook balance on January 31, 19-- is $468.45. His January bank statement shows a balance of $414.95. He finds

that he failed to record a check written for $13.50. Also, the last deposit made, $40.00, was not recorded on the bank statement.

2. The balance in Sharon Greer's checkbook on April 30, 19-- is $742.50. Her bank statement for April shows a balance of $702.88. She discovers that she has two outstanding checks; No. 36, $30.00; and No. 37, $11.38. Also, the bank statement does not show a deposit for $75.00 made by her on April 28. A service charge of $1.00 has been deducted from the bank statement. She also discovers a check for $5.00 had not been recorded on her check stub.

UNIT I

REVIEW

Prepare reconciliation statements for the following. Use your name and today's date in the heading.

	Balance in Checkbook	Bank Statement Balance	Service Charge	Outstanding Checks	Other
1.	$ 368.10	$ 432.50	None	No. 34, $26.50 No. 35, $14.25 No. 38, $23.65	None
2.	86.55	124.80	$2.00	No. 72, $24.50 No. 74, $14.94	Check No. 70 written for $4.09 was recorded on check stub as $4.90
3.	845.62	958.10	1.50	No. 14, $8.36 No. 16, $5.62	Deposit not recorded in checkbook, $100.00
4.	560.14	462.82	2.00	No. 42, $18.50 No. 43, $34.95 No. 45, $1.23	Deposit not recorded on bank statement, $150.00
5.	1,180.20	1,246.84	None	No. 81, $12.58 No. 82, $24.54 No. 84, $25.00 No. 85, $6.50	Check No. 78 for $12.10, was recorded as $10.12

6. Prepare the following check and check stub:

John Gregory writes a check for $38.10 to Midway Parts for repair parts for his car. Use today's date. John's balance carried forward to this check is $312.80.

Bal. brought forward		**JOHN GREGORY** NO. _____ **ANYTOWN, USA**
Deposit		_____ 19____
Total		Pay to the Order of _____ $ _____
Date _____ 19____ to _____ for _____		_____ DOLLARS
Amt. this check		for _____
Bal. carried forward		_____

"What is the difference between gross pay and net pay?"

UNIT II

WAGES

Figuring Income

Most people who work verify their paychecks to be sure that no errors have been made and that they are receiving the correct amount of money. Wages are usually paid at a certain rate per hour worked; however, some industries and factories pay wages according to the number of items produced by an individual. Wages for work of this type are figured by multiplying the number of completed items times the assigned amount to be paid by the company for each item produced.

First, let's look at hourly wages. Some jobs pay a specified amount of money per hour. Usually, the employee is paid for a work-week of forty hours. If an employee works more than the regular 40-hour week, the employer will pay one and one-half times the regular hourly rate for all hours over forty hours. This work is known as overtime. Also, occasionally an employer will pay double time (two times the regular hourly rate) for work on Sundays and holidays.

The following example shows how to calculate an employee's pay for a work-week consisting of forty regular hours and seven hours overtime. The employee's regular hourly rate is $2.30 an hour.

Regular hours	40 x $2.30
Overtime hours	7 x 3.45 (1½ times $2.30)
Regular wages	$92.00
Overtime wages	24.15
Total wages	$116.15

EXERCISES

1. The following is a list of Townsend Company employees and their hourly earnings. The company pays its employees time and a half for all hours over forty per week. Find each employee's total earnings for the week of February 23-28.

		Hourly Rate	Hours Worked	Total Wages
a.	Barney Holmes	$2.50	41	
b.	Jimmy Church	3.10	46	
c.	Donna Jones	2.80	44	
d.	John Ray	2.30	49	
e.	Ginger Smith	3.60	43	
f.	Bill Durham	2.90	52	
g.	Jill Brewer	2.70	48	

2. The Greenlief Manufacturing Company's employees work 8-hour days and are paid time and half for any hours worked over eight hours each day. The following is a list of employees, their hourly wage-rates, and number of hours worked each day for the week of April 12. Find the total earnings for each employee.

	Hours Worked					Hourly	Total Hours		Total
	M	T	W	Th	F	Rate	Regular	Overtime	Earnings
George Byers	8	8	9	8	8	$2.30			
Shirley Graves	6	10	9	8	8	2.90			
Johnny Crane	11	8	10	8	9	3.20			
Bill Dudley	9	9	9	8	8	2.60			
Sharon Elton	0	11	12	10	8	2.50			
Richard Jones	10	8	8	9	8	2.70			
Jean Eller	12	10	8	8	10	3.30			

3. During the week of July 10, Susan Gaines works a 40-hour week and four hours on Sunday. The company that she works for has a policy of paying double time for any hours worked on holidays and Sundays. If she is being paid $2.50 per hour for her regular hours, what will her total earnings be for the week of July 10?

Certain manufacturing firms pay their employees by the number of items they produce per week. A specific amount is usually paid for a specific number of items produced. This is known as piece-work wages (production). An example of earnings of this type follows:

Jack Greene works in a factory that pays $.55 per item produced. Jack produces the following number of items during the week of April 12: Monday, 48; Tuesday, 56; Wednesday, 46; Thursday, 50; Friday, 52. What are his total earnings for the week?

	Items Produced
Monday	48
Tuesday	56
Wednesday	46
Thursday	50
Friday	52
Total	252

252 x $.55 = $138.60 Total Earnings

EXERCISES

1. The Lane Manufacturing Company pays its employees $3.00 per dozen articles produced. What would be the earnings for each employee listed below?

   a. Max Lowe 30 dozen

   b. John Jordan 36 dozen

   c. Jennifer Perry 47 dozen

2. An employee is paid $.62 for each item he completes. For the week of December 16, he completes the following items: Monday, 34; Tuesday, 37; Wednesday, 36; Thursday, 41; Friday, 38. What are his total earnings for the week?

Deductions

Paychecks received by individuals who work have two amounts of money stated on the check voucher. The first of these is entitled "gross earnings." This is the amount of money earned for the pay period. It is found by multiplying the total hours worked by the amount the individual is being paid per hour. The actual amount that is stated on the check that the employee receives is known as "net earnings." What happens to the difference between gross earnings and net earnings? This difference is known as "deductions." These deductions are made from paychecks for income taxes, social security (FICA), insurance, and other items that are either required by the employer or requested by the employee.

Income taxes are paid by each working individual to help support our government. Income tax tables are furnished by the federal government to aid employers in determining the proper amounts to be withheld from each employee's earnings. The amount to be withheld depends upon the employee's earnings, marital status, and number of dependents claimed. A dependent is someone the employee is supporting or helping to support, usually a spouse and children. These "exemptions" aid in determining the amount to be withheld from an employee's paycheck. The more exemptions an individual claims, the less income tax will be withheld. This gives the individual more net earnings on each paycheck, but may cause additional taxes to be owed when filing an income tax return for the year. Income tax forms will be discussed in a later section.

Social security taxes are withheld from each employee's check to provide money to support the federal government and to provide

the employee with future money when retirement occurs. The government will return a monthly payment to the individual to provide support during the retirement years. A certain percentage is withheld each pay period from the employee's pay and the employer pays a matching amount for the employee. The percentage for social security changes periodically, but at the printing of this material, 5.85% of the employee's earnings is withheld, with a matching 5.85% being paid by the employer. Social security is only withheld from an employee's pay up to a certain amount of total earnings each year. As of the printing of this material, social security is withheld from an employee's earnings on the first $14,100 earned yearly. This figure, as does the percentage, changes periodically. Once an employee has earned $14,100 during the year, no more social security tax is withheld. Employers are provided a social security tax table by the federal government to aid in determining the amount of tax to be withheld from each employee's earnings.

EXERCISES

1. Jenny Logan's gross earnings for the week of July 16 were $108.50. Deductions withheld from her paycheck totaled $22.86. What were her net earnings?

2. Determine net pay for the following employees for the week of October 15.

	Name	Gross Earnings	Deductions		Total Deductions	Net Earnings
			Income Tax	FICA		
a.	Bill Brown	$110.00	$11.60	$6.44		
b.	Charles Erwin	85.50	8.45	5.00		
c.	Brenda Greene	132.40	16.24	7.74		
d.	John Hanes	126.10	15.10	7.38		
e.	Kay Jones	96.60	9.84	5.65		
f.	Evelyn Miller	115.25	12.89	6.74		
g.	Ralph Thomas	122.00	14.78	7.14		

3. An employee's gross earnings total $124.80. What amount will be deducted for social security at 5.85%?

Time Cards

Many employers require each employee to use a time card to keep an accurate record of hours worked each week. The employee places the time card in a time clock which stamps the time on the card. An employee's hours worked are determined by the time recorded on the time card.

The actual time that is stamped on a time card is usually not used in determining earnings for an employee--that is, if an employee comes to work at 7:55 and the regular work-day begins at 8 a.m., the time will be treated as 8 a.m. Most companies give credit for full hours worked and quarter hours (15 minutes) worked. For example, if an employee goes to work at 8:10, the time will be treated as though it were 8:15. Most companies will allow their employees 2-4 minutes for late arrival and not penalize them fifteen minutes.

Let's look at the following time card for Jessie Miles. His regular work-day is from 8 a.m. to 12 noon and from 1 p.m. to 5 p.m. His company allows him four minutes without losing time for arriving late or leaving early.

Day	Morning		Afternoon	
	In	Out	In	Out
Monday	7:56	11:58	1:00	5:00
Tuesday	8:04	12:00	1:10	4:58
Wednesday	8:00	12:03	12:55	5:03
Thursday	8:10	12:01	1:04	4:56
Friday	8:03	11:50	1:01	5:00

Jessie will be credited as having started work at 8 a.m. on each day except Thursday. His starting time on that day is 8:15. He will be credited as having left for lunch at 12 noon each day except Friday. This is counted as 11:45. After lunch, he will be credited as having started back to work at 1 p.m. each day except Tuesday. This will be counted as 1:15 p.m. He is not peanlized for leaving early any afternoon during the week.

EXERCISES

1. Determine Jessie's weekly earnings using the time card on page 16. His hourly earnings are $2.80 per hour.

2. Cheryl Barker's regular work-day is from 8 a.m. to 12 noon and from 1 p.m. to 5 p.m. She is allowed three minutes for arriving late or leaving early. By using the following time card, determine Cheryl's total hours for the week of August 5.

	Morning		Afternoon	
Day	In	Out	In	Out
Monday	7:59	12:00	1:00	5:00
Tuesday	8:00	12:00	12:59	4:55
Wednesday	8:02	12:01	1:03	5:02
Thursday	8:08	11:58	12:57	5:00
Friday	7:58	12:03	1:01	4:57
Saturday	7:59	12:00		

3. Using the total hours determined above, find Cheryl's gross earnings for the week. Her regular hourly wage is $2.50 per hour. Consider all hours worked on Saturday as overtime.

"Income tax time again!"

Income Tax Forms

Every person who has worked during the year must file an income tax return between January 1 and April 15 of the following year. Federal and state governments obtain a large portion of their incomes from taxes paid by the working people of the United States. Employed people who receive regular paychecks have income tax withheld from

their periodic paychecks to cover the yearly tax due to the federal and state governments. Those who have paid more tax than is owed will receive a refund after filing an income tax return. Others may have to send additional tax to pay the difference that is still owed. A form showing the amount of tax paid by a working person is mailed to the individual by the employer at the beginning of the next year. The form that contains this information is known as a W-2 Form. A copy of this form must accompany both the federal and state income tax forms when they are filed each year.

There are several steps that, if followed, make completing federal income tax forms relatively simple. The first of these is declaring dependents or exemptions. Each exemption claimed allows the individual to reduce the gross income earned each year by $750. As a taxpayer, you are allowed to claim yourself as an exemption. You can also claim one exemption for your spouse and one exemption for each child.

After the exemptions have been determined, the next step is to determine the taxable income that the taxpayer has made during the year. Taxable income is the person's total gross income minus $750 for each exemption claimed, and less all allowable deductions. The amount is known as "adjusted gross income" or "taxable income." This figure is used to compute the taxpayer's taxes that are owed.

Deductions are certain expenses incurred by the taxpayer that the federal government will allow to be subtracted from that person's gross income. Deductions that can be itemized are medical expenses, contributions to churches and charity organizations, interest paid on credit purchases, and property and sales taxes. Many people, rather than itemizing deductions, take a standard deduction. This

is a deduction of 16% of your gross income up to $2,300 for a single taxpayer and up to $2,600 for a married couple who file a joint return. If your gross income is under $15,000, the tax tables provided by the federal government have already taken into account the deduction as well as the $750 per exemption. You simply locate the appropriate column in the tax tables to determine your taxes owed. If your gross income is $15,000 or over and you wish to use the standard deduction, you simply subtract the appropriate figure mentioned above (according to marital status) plus $750 per exemption from your gross income to determine the taxable income. If you itemize deductions, determine your total deductions and subtract this figure plus $750 per exemption from your gross income to determine the taxable income. Always compare the two methods to determine which is better to use on your return!

The final step is to figure the tax owed. The two previously mentioned methods are most commonly used--standard deduction method and itemized deduction method. If you are using the standard deduction method, the tax tables show the total amount of tax owed, already figured for you. These tax tables are broken down by adjusted gross income, marital status, and number of exemptions claimed. After determining the adjusted gross income (wages, salaries, tips, dividends, interest income such as interest on a savings account), simply locate the proper column (marital status, proper number of exemptions, and adjusted gross income) in the tax table to find your tax owed.

If you itemize deductions or your adjusted gross income is $15,000 or more, you must use the tax rate schedules provided by the federal government. These tables are broken down by marital status of the taxpayer and the adjusted gross income earned. The amount of

tax owed depends upon the tax schedule used and the adjusted gross income of the individual. (Examples of the tax tables and rate schedules mentioned are located in the appendix section of this booklet.)

Let's look at an example of figuring income tax using the information given. The tax tables and rate schedules located in the appendix will be used for figuring the example problems and all exercises in this section.

Susie Baskins had a gross income of $11,400 last year. She claimed deductions of $450 in medical expenses, $360 in taxes, and $650 in contributions. Susie is single. (a) What are her total federal taxes owed if she uses the itemized deductions method of figuring taxes? (b) What are her total federal taxes owed if she uses the standard deduction method? (c) Which method should she use in preparing her tax return?

(a) $11,400 Gross income
- 1,460 Total deductions
9,940
- 750 One exemption x $750
$ 9,190 Adjusted gross income

Using Schedule X, Susie's tax owed is $1,590 plus 25% of the excess income over $8,000, or $297.50 ($9,190 - $8,000 = $1,190 x 25%). Her total tax owed using itemized deductions is $1,887.50.

(b) $11,400 Gross income
$11,400 Adjusted gross income (Her adjusted gross income is the same as her gross income.)

Using the tax table in the appendix, Susie's taxes owed total $1,802.

(c) Susie should use the standard deduction method when filing her income tax return because her taxes owed are less using this method.

EXERCISES

Use the tax tables and rate schedules in the appendix to compute the following problems.

1. Alice Harvey earned $9,560 last year. She is single. What is her income tax owed if she uses the standard deduction method?

2. Determine the amount of tax owed using the standard deduction method for the following salaries:

	Name	Gross Income	Marital Status	Exemptions
a.	Jay Bates	$10,268	Single	1
b.	Jackie Brown	9,945	Single	1
c.	George Kerns	13,625	Married (Joint Return)	2
d.	Emily Wells	8,982	Single	1
e.	Graham Tippet	14,400	Married (Joint Return)	2

3. William Crane and his wife earned $18,500 last year. They decided to file a joint return and to itemize their deductions which are as follows: Interest on house mortgage, $876; contributions, $480; medical expenses, $320. Using Schedule Y in the appendix, determine the Cranes' total taxes owed. (Do not forget to deduct the $750 per exemption!)

4. Ben Hampton qualifies as an unmarried head of household. He had a gross income of $10,556 last year. His deductions are as follows: medical expenses, $178; taxes, $490; contributions, $650.

   (a) Find his tax owed using both the standard deduction method and the itemized deduction method.

   (b) According to Ben's W-2 form, $1,380.60 was deducted from his earnings during the year. By using the better method of filing as determined in (a) above, will Ben owe more tax or will he receive a refund; how much?

UNIT II

REVIEW

1. Amy Green works on a 40-hour per week basis at the rate of $2.40 an hour. Her employer pays time and a half for any overtime hours. She worked 49 hours this week. What are her total earnings for the week?

2. Alvin St. John worked 46 hours during the week of March 8. His employer pays time and a half for all overtime hours and double time for all Sunday and holiday hours worked. His regular hourly rate is $2.30. Of Alvin's total hours, three hours were worked on Sunday. What are his total earnings for the week?

3. Determine the total earnings for the following employees who work on an eight-hour-day basis with all hours over eight each day considered as overtime.

	Hours Worked					Rate per
	M	T	W	Th	F	Hour
Employee A	8	7	9	9	8	$2.60
Employee B	10	6	8	8	8	2.30
Employee C	8	8	8	9	11	2.90
Employee D	8	8	8	11	10	2.40

4. Bruce Benson's gross earnings were $136.50 for the week of June 18. Deductions made from his paycheck were as follows: FICA (Social Security), $7.80; income tax, $20.35; insurance, $1.50. What is his take-home pay?

5. Determine the gross earnings for the following time cards of Bernice Jackson and Andrew Hensley. Their employer allows four minutes for late arrival and leaving early. They both work an 8-hour work day, 8 a.m. to 12 noon and 1 p.m. to 5 p.m. Bernice is paid $3.20 per hour and Andrew is paid $3.10 per hour.

Bernice

	Morning		Afternoon	
Day	In	Out	In	Out
Monday	7:56	11:59	12:59	4:59
Tuesday	8:09	12:01	1:00	5:00
Wednesday	8:00	11:58	12:57	4:56
Thursday	7:58	12:00	1:04	5:02
Friday	7:57	12:02	1:00	5:00

Andrew

Day	Morning In	Morning Out	Afternoon In	Afternoon Out
Monday	8:00	11:58	12:55	5:01
Tuesday	7:58	11:50	1:01	5:00
Wednesday	8:01	12:00	1:00	4:58
Thursday	7:58	12:01	12:59	5:01
Friday	7:57	11:56	1:04	4:52

6. Figure the tax owed on the following salaries using the standard deduction tables in the appendix:

		Adjusted Gross Income	Exemptions	Marital Status
a.	Harry Willis	$ 8,980	1	Single
b.	Ervin Wyler	12,378	2	Married (joint return)
c.	Betsy Granger	14,724	2	Married (joint return)
d.	Virginia White	9,871	1	Single

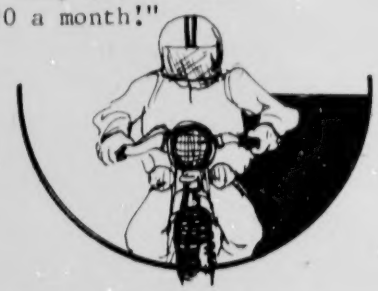
7. Marvin and Beth Bowman earned $17,285 last year. They decide to file a joint return and use the standard deduction method of filing their tax return. Determine their taxes owed using Schedule Y in the appendix (do not forget to subtract the $2,600 standard deduction plus $750 per exemption to determine the adjusted gross income).

8. Henry Parks earned $10,258 last year. He is single. Henry claims the following deductions: medical expenses, $120; interest on house mortgage, $755; taxes, $380; contributions, $438.

   a. What is Henry's tax owed using the standard deduction method?

   b. What is his tax owed using itemized deductions?

"Wow! Only $200 down and $90 a month!"



UNIT III

INSTALLMENT BUYING

Cash Vs. Installment Buying

Many times you may wish to buy items that cost more money than you have on hand. Cars, television sets, furniture, boats, and other items are usually among those that you wish to purchase. Installment buying allows you to purchase such items by making a series of smaller payments to pay for the item. Items bought through the installment plan usually will cost more because the merchant adds a finance charge to the cash price of the item. This finance charge is simply interest that is being paid to the merchant for the use of his money, as well as covering the expense he incurs by offering installment buying.

A down payment or part payment is usually required when an item is bought on the installment plan. This helps to assure the merchant that you wish to purchase the item and that you are agreeing to make periodic payments to cover the remainder of the cost of the item.

Advantages of using the installment plan are that you can purchase major items with a minimum of cash and can use the item while paying for it. However, by the time the item is paid for, it may be worn out!

Installment Price and Finance Charges

The following example shows how to find the installment price of an item as well as how to find the amount of the finance charge.

A washing machine has a cash price of $247. It can be purchased by paying $25 down and $20 a month for twelve months. What are the installment price and the finance charges?

Down payment	$ 25.00
Installments of $20 per month for 12 months	240.00
Installment price	265.00
Cash price	-247.00
Finance charge	$ 18.00

As you can see after studying the above problem, making purchases through the installment plan costs more than paying cash. It is best to try to save enough money to pay for items that you want or need. If this is not possible, always try to make as large a down payment as you can in order to reduce the amount to be paid through installment payments. This makes the payments smaller as well as being less expensive for you!

EXERCISES

1. Figure the installment price and the finance charge on each of the following items:

	Item	Cash Price	Payment Terms
a.	Motorcycle	$ 860	$50 down; $50/month for 18 months
b.	Riding Lawnmower	465	$30 down; $45/month for 10 months
c.	Travel Trailer	1,250	$150 down; $88/month for 15 months
d.	Air Conditioner	375	$37.50 down; $25/month for 16 months
e.	Freezer	325	$20 down; $20/month for 19 months
f.	Cassette Recorder	88	$15 down; $3/week for 27 weeks
g.	Vacuum Cleaner	156	$25 down; $10/month for 15 months

UNIT III

REVIEW

1. A car costing $3,650 can be purchased by paying $1,650 down and $90 per month for 36 months. What is (a) the installment price and (b) the finance charge?

2. Gene Hamilton wishes to purchase a new tape player for his car. He does not have enough money to pay the cash price of $134.95. The salesman tells Gene that the tape player can be purchased by making a down payment of $20 and making monthly payments of $10 per month for 14 months. How much will the finance charge be if Gene decides to purchase the tape player on the installment plan?

3. Mary Raeford purchases a new range for her kitchen by paying $75 down and agreeing to pay $33.50 per month for 12 months. The cash price of the range if $425. What will be the installment price of the range?

4. Determine the installment price and finance charge for each of the following items:

	Item	Cash Price	Payment Terms
a.	Refrigerator	$ 560	$125 down; $42.50/month for 12 months
b.	Bicycle	110	$20 down; $12.65/month for 9 months
c.	Watch	65	$5 down; $5/week for 14 weeks
d.	Sofa	300	$50 down; $20/month for 15 months

"Where is our money going?"

UNIT IV

BUDGETS

Establishing a Budget

A family that must operate on a weekly or monthly income should establish a budget. A budget is simply a planned method of spending money wisely to reach stated goals. Budgeting can eliminate inefficient spending of your hard-earned money. Preparing a budget takes careful planning, and following a budget takes great determination by each member of the family.

The first step in establishing a budget is to set your personal family goals. What are the things that your family must have? Next, estimate the income earned during your budget period (weekly, monthly, etc.). Remember that you will have a regular amount of income to work with as well as possible irregular income, such as interest from savings, rent income, gifts, and other sources. You should rely on the regular income as your main source of money.

After you have figured your income for the planning period, estimate your expenses for the same period. Check stubs, receipts, and old bills serve as good sources for this information. These may be all you need for determining your expenses.

Once the above information has been gathered, you are ready to establish your budget. There is no set form to follow in developing a budget. No two people or families ever spend their money in

exactly the same way; therefore, each budget must fit the individual or family, the income, the needs and desires. The following budget is given as an example and probably will not look like any other prepared budget; however, it can be used as a starting point and adapted to individual or family use.

	Amount (Per week, month, etc.)
Income	
Regular Income	$_____
Irregular Income	_____
Total Income	_____
Expenses	
Food	_____
Clothing	_____
Home (rent or payment)	_____
Utilities	_____
Automobile	_____
Medical Bills	_____
Savings	_____
Recreation	_____
Other Expenses	_____
Total Expenses	_____

Special Budgeting Problems

After entering figures into your budgeting plan, see if they balance. If so, fine. If your income is greater than your total expenses--even better. But, if your expenses are greater than your income, it is time to re-evaluate your system of spending money.

Check your expenses to determine which ones might be reduced or dropped. Learn to "cut corners" on clothing, food, and other areas--shop for specials. If you are buying items on installment, seriously consider whether the items are necessary.

After using your budget for the specified period, compare what you spent with what you had planned to spend. If there is a large difference between the two, find out why. It may be necessary to revise your budget from time to time to make it "fit" you and/or your family. As circumstances change, such as new wants and needs, you will need to change your budget to fit these needs.

UNIT IV

REVIEW

1. Jerry Anderson works in a local grocery store. His monthly take-home salary is $525. He has prepared a budget with the following amounts being allowed for needed items: clothing, $50; food, $125; rent on home, $175; utilities, $66; transportation, $50; savings, $25; miscellaneous, $34. Is he spending his salary wisely and staying within his budget?

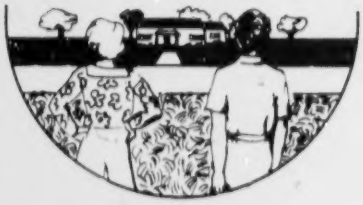
2. Prepare a budget for the following using the form discussed previously.

   Monthly salary: $650

   Average monthly expenses:
   - Clothing, $57.50
   - Food, $145.00
   - Transportation, $50.00
   - House payment, $225.00
   - Savings, $75.00
   - Utilities, $65.50
   - Miscellaneous, $32.00

3. Assume that you are currently working and your take-home pay is $475. Prepare a projected budget that would cover your expenses if you were single, rented a home, and owned a car.

"Our own home!"



UNIT V

HOME EXPENSES

Owning a Home

Everyone's dream is to own a home someday. We must stop to consider the costs involved in owning a home that are separate from the cost of the home itself. Some of these costs include taxes, repairs, insurance, interest on the loan used to obtain the home, and operation expenses (such as utility bills).

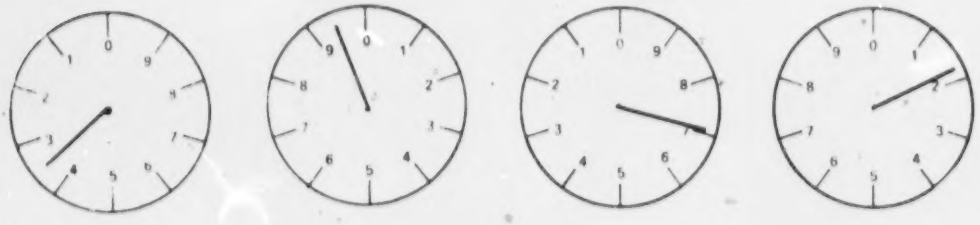
Utility Bills

When you purchase a home, there are various bills you will have to pay, such as bills for electricity, gas, water, and telephone.

Electricity is measured in kilowatt-hours and is recorded by a meter located on the outside of every house that uses electricity. Electric companies employ people known as "meter readers" who check each meter every month or every two months to determine the kilowatt-hours listed on the meter. This information is then returned to the company where the previous reading is subtracted from the present reading to determine the number of kilowatt-hours of electricity that have been used. The cost of electricity varies with the amount of electricity used. The rates are lower as more kilowatt-hours are used. The following rates will apply for our problems in this section:

First 25 kilowatt-hours	$2.20
Next 65 kilowatt-hours	5.5¢ per kilowatt-hour
Next 125 kilowatt-hours	4.5¢ per kilowatt-hour
Over 215 kilowatt-hours	4¢ per kilowatt-hour

Reading an electric meter is simple--just remember to read the last number passed by the indicator on each dial. There are usually four dials on an electric meter. Regardless of the direction of the numbers on the dials, each is still read numerically from 0 to 9. Let's look at the following example:



The meter above shows the reading for June 1. It is 3,971. The meter below shows the reading for July 1. It is 4,526. The difference (555) is the number of kilowatt-hours used for the month of June.

By using the rate table mentioned earlier, let's determine the total charge for the kilowatt-hours used above:

First 25 kilowatt-hours		$ 2.20
Next 65 kilowatt-hours	(5.5¢ x 65)	3.58
Next 125 kilowatt-hours	(4.5¢ x 125)	5.63
Over 215 kilowatt-hours	(4¢ x 340)	13.60
	Total	$25.01

Natural gas is used in many homes for heating and cooling. A meter is also used for measuring the amount of gas used in a home per month. Gas is measured in cubic feet, usually with the digits on the meter representing 100 cubic feet. Thus, if the meter reads 326, the figures represent 326 hundred cubic feet or 32,600 cubic feet. The dials are read just like the electric meter dials are read.

Gas companies have established rate charts that are used in determining a customer's bill each month. The following is an example of a gas company rate chart:

First 200 cubic feet	$1.90
Next 500 cubic feet	26¢ per 100 cubic feet
Next 2,000 cubic feet	18¢ per 100 cubic feet
Next 5,000 cubic feet	12¢ per 100 cubic feet
Over 7,700 cubic feet	9¢ per 100 cubic feet

Let's determine the total bill for the following problem using the rate chart above. A customer's previous meter reading was 365. This month's reading is 425. The difference is 60 which shows that 60 hundred cubic feet or 6,000 cubic feet of gas have been used.

The bill would be calculated as follows:

First 200 cubic feet	$ 1.90
Next 500 cubic feet (5 hundred cubic feet x 26¢)	1.30
Next 2,000 cubic feet (20 hundred cubic feet x 18¢)	3.60
Next 3,300 cubic feet (33 hundred cubic feet x 12¢)	3.96
Total	$10.76

EXERCISES

Using the electric and gas rate charts given previously, calculate the total charges for the following electric bills and gas bills.

Electric meter readings:

	Previous Meter Reading	Present Meter Reading
a.	369	456
b.	2,480	2,970
c.	1,765	2,450
d.	825	955

Gas meter readings:

	Previous Meter Reading	Present Meter Reading
a.	427	452
b.	389	426
c.	781	870
d.	211	250

Taxes and Insurance

Each year homeowners receive a tax statement from the local tax office. This statement shows the taxes owed on the property. The amount of tax to be paid is calculated by multiplying the tax rate a community uses by the assessed valuation of the property. Assessed valuation of property is a percentage, usually 40-60%, of the actual price the property is worth. Tax rates vary from community to community. In some communities, a certain number of dollars for every $100 or $1,000 of assessed valuation is used as the tax rate. In other communities, a term known as mills is used. One mill represents one-tenth of a penny. There are ten mills in a penny and 100 pennies in a dollar; therefore, we can determine that there are 1,000 mills in a dollar (10 mills/penny x 100 pennies/dollar = 1,000 mills/$1.00). Thus, to find the tax owed, we must change the number of mills used as the tax rate to dollars and multiply it by the assessed value of the property. For example a certain amount of property is valued at $7,800 in a city where the tax rate is 25 mills per dollar. We can determine the property tax by first changing the number of mills to dollars. This is done by dividing the number of mills by 1,000. An easier way to change mills to dollars is to move the decimal point three places to the left and add a dollar sign. In our problem, 25

mills is expressed as $.025. (25 ÷ 1,000).

$7,800 x $.025 = $195 Property tax.

If a city uses the dollars per $100 or $1,000 tax rate, the property tax is determined by first finding the number of $100 or $1,000 units there are in the assessed value of the property. This is accomplished by dividing the assessed valuation of the property by the tax rate unit being used (either $100 or $1,000). For example, if the property tax in a community is $2.50 per $100 and a piece of property is valued at $8,000, simply divide $100 into the assessed value of the property ($8,000 ÷ $100 = 80 units) and then multiply the number of units by the tax rate.

$2.50 x 80 = $200 Property tax

If the tax rate had been $25 per $1,000, the number of units would have been determined by dividing $8,000 by $1,000. Thus, the property tax would have been the same ($8,000 ÷ $1,000 = 8 units).

$25 x 8 = $200 Property tax

As a homeowner, you must protect yourself from financial loss by insuring your home. Millions of dollars are lost each year by fire alone. Perils such as the elements of nature, burglary, vandalism, and others can also cause losses that are too great for a family to bear alone.

Separate insurance policies are available to cover those perils mentioned, or they can all be combined under one policy known as the homeowner's policy. This policy covers all possible damages which may occur to a home.

Premium rates for insurance policies are usually determined according to the rates being used by an insurance company and the

amount of the policy. Most insurance companies use rate schedules that are printed to aid in calculating premiums. In the problems that follow, we shall assign specific premium rates to determine premiums on various amounts of insurance.

For example, an insurance company may charge $.35 for every $100 of insurance. Using this figure, a policy for $20,000 would have an annual premium of $70.

$20,000 ÷ $100 = 200 units

200 units x $.35 = $70

As stated earlier, insurance is very necessary when you become a homeowner. Regardless of the type of policy you may purchase, be sure that it is adequate. Know what the policy covers and how much will be paid in the event of a loss. This type of information may become very important to you someday!

EXERCISES

1. The Bryant family purchased an insurance premium that has a face value of $25,600. What will their yearly premium be if their insurance company charges $.47 per $100 of insurance for a policy of this size?

2. Given the following insurance policy values and the amount of annual premium charged per $100 of insurance, determine the total annual premium of each policy:

	Face Value of Policy	Premium Rate per $100
a.	$ 9,800	$.34
b.	19,500	.52
c.	36,200	.44
d.	24,900	.72
e.	14,600	.31
f.	29,100	.64
g.	42,700	.29

Shopping

Shopping is a task that every person becomes involved in at an early age and continues throughout life. How we shop largely determines how we are able to live financially. Careless shoppers often buy items that are unnecessary and waste money that could be spent more wisely. Careful shoppers learn to look for true values, bargains, and items that are essential for the family.

Comparing items can lead to savings when shopping. For example, a 6-ounce jar of coffee may be priced at $.76 while a 12-ounce jar may be priced at $1.30. By comparing closely, we can see that buying the 12-ounce jar of coffee would be cheaper than buying two 6-ounce jars--a saving of $.22. By shopping in this manner, savings will be increased greatly.

When shopping, look for bargains. Items that are needed in the near future that are on sale should be bought now to save money. Buying in larger quantities often aids in reducing costs. For example, canned tomatoes are $.30 per can while two cans may be bought for $.56. By purchasing two cans, you are saving $.04.

You can also determine how much an item costs per ounce or pound. This will determine whether or not a larger amount of the same item may be cheaper. For example, three pounds of steak may be purchased for $3.39 while five pounds of the same steak may be purchased for $5.10. By dividing the number of pounds into the cost, you can determine the cost per pound. The three pounds of steak cost $1.13 per pound while the larger amount of five pounds costs $1.02 per pound. This shows that buying in larger quantities will often reduce the cost of an item.

EXERCISES

1. A 4-ounce jar of jelly costs $.56. A 9-ounce jar of the same jelly costs $.99. Which of the two jars of jelly is cheaper per ounce? How much cheaper?

2. Individual cans of corn are sold for $.28 each. These cans of corn can be purchased at four cans for a $1.00. Which is cheaper four for a dollar or buying four individual cans? How much cheaper?

3. How much would be saved by purchasing bars of soap priced at ten for $1.15 instead of $.15 each?

4. Which is cheaper per ounce, a 6-ounce bottle of deodorant priced at $.78 or a 10-ounce bottle priced at $1.40? How much cheaper?

Sales Tax

Many states and cities adopt a certain percentage of every sale to be used as a tax, which is known as sales tax. This tax money helps to support the state and local governments. A set percentage is usually used and varies from state to state. For example, a coat is purchased for $39.90. There is a 5% sales tax on the purchase. The total cost of the coat would be figured as follows:

$39.90 Cost of Coat + 5% Sales Tax = Total Cost

$$\begin{array}{r} \$39.90 \\ \times\ .05 \\ \hline 1.9950 \end{array}$$

The percent is changed to a decimal. To do this, simply drop the percent sign and move the decimal 2 places to the left. If there is only one number (5% = .05) to the left of the percent sign, simply add a zero as in the above percentage.

$$\begin{array}{l} \$39.90 \text{ Cost of Coat} \\ +\ 2.00 \text{ Sales Tax rounded off to nearest penny} \\ \hline \$41.90 \text{ Total Cost} \end{array}$$

EXERCISES

1. Determine the total cost of a dress that costs $28.50 when the sales tax is 3%.

2. What is the sales tax on each of the following items?
   a. A pen and pencil set costing $6.95 with 3% sales tax

b. Two model cars costing $4.50 each with 4% sales tax
c. A radio costing $24.88 with 6% sales tax

Remember to round your answer to the nearest penny.

3. Find the total cost of the following:

	Cost of item	Sales tax
a.	$ 46.50	5%
b.	9.80	3%
c.	14.65	4%
d.	58.00	6%
e.	10.95	3%
f.	126.90	4%
g.	11.45	5%

UNIT V

REVIEW

Use the electric and gas rate tables given in the utilities section of this unit to complete the appropriate problems in this review.

1. Determine the total charges for the following electric meter readings:

	Previous Meter Reading	Present Meter Reading
a.	4,625	4,981
b.	1,312	1,396
c.	3,654	4,018
d.	261	346

2. Determine the total charges for the following gas meter readings:

	Previous Meter Reading	Present Meter Reading
a.	106	188
b.	614	642
c.	489	526
d.	709	748

3. A city's tax rate is $28.50 per $1,000 of assessed valuation. Jack Long's property is assessed as being worth $8,300. What is the tax on his property?

4. Kim Blanchard lives in a city that uses a tax rate of 27 mills per $1.00. She owns property that has an assessed valuation of $14,900. What is her property tax?

5. Given the following information, determine the annual premium for each insurance policy:

	Value of Policy	Annual Premium Rate
a.	$11,400	$.25 per $100
b.	26,900	.37 per $100
c.	17,600	.31 per $100
d.	28,700	.59 per $100

6. A men's clothing store is offering men's socks on sale at three pairs for $4.00. These socks regularly sell for $1.75 per pair. How much will be saved by purchasing the three pairs of socks while they are on sale?

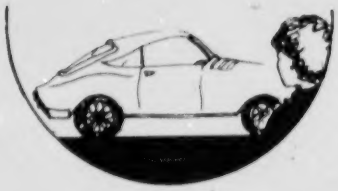
7. A pound of hamburger meat may be purchased for $.89. Three pounds of the same hamburger meat may be purchased for $2.10. Which is the better buy? How much cheaper is the better buy?

8. Margie Simon wishes to purchase a dress costing $49.95. She will have to pay a sales tax of 4%. She has $51 with her. Does she have enough money to purchase the dress? If not, how much more does she need?

9. Determine the total cost for each of the following:

	Item	Price	Sales Tax
a.	Necklace	$ 6.95	4%
b.	Shoes	24.50	3%
c.	Watch	49.00	5%
d.	Coat	56.95	6%

10. How do you change a percent to a decimal? Change the following percents to decimals: a. 9%; b. 5%; c. 14%; d. 6½%.



UNIT VI

YOU AND YOUR AUTOMOBILE

Owning our first car is one of the biggest events in our lives. Yet, we should stop before making the "big purchase" to determine the costs that are involved in owning an automobile.

Depreciation

First, let's look at the difference between what we pay for a new car and what we get for the car when we trade for another car. This price difference is known as depreciation. If we buy a new car for $5,000 and get a trade-in allowance of $1,400 four years from now, the car has depreciated $3,600 (new cost of $5,000 minus trade-in value of $1,400). If we divide the total depreciation by the number of years we have the car, the yearly depreciation may be determined. For example, the car above had a total depreciation of $3,600 in four years. The yearly depreciation would be $900 ($3,600 divided by 4).

EXERCISES

1. John is allowed $800 on a car he bought for $3,500 five years ago. What is the total depreciation on the car? How much per year?

2. Penny trades for a car costing $4,200. She is allowed $1,200 on her old car which she bought three years ago for $5,400. What is the annual depreciation on the car?

3. Kenneth decides that he wishes to trade his present car for a new one. The car that he now owns originally cost $4,750. He has talked with a car salesperson and has learned that the dealer will allow him $950 for his old car. He has had his present car for six years.
   a. What is the total depreciation on his car?
   b. What is the annual depreciation?

Insurance

Automobile accidents are very common occurrences in today's fast-moving world. Deaths and injuries occur frequently each day as a result of car accidents. Automobile insurance is one way people protect themselves against losses caused by these accidents.

There are several types of automobile insurance available. The first of these is liability insurance. This insures the car owner against injuries to another person as a result of his car. Many states require by law that all automobiles be covered by liability insurance. Liability insurance may also include insurance against damage to someone else's property. For example, if an accident occurs, the person who is liable will have his insurance company pay for the damages done to the other person's car or property if his insurance covers property damage. Another type of insurance coverage is collision insurance. This insurance protects the owner against damage that may occur to his car. Almost all collision insurance policies state that the owner is responsible for the first $25, $50, or $100 for repair of damage as the result of an accident. This payment is known as a deductible--that is, the insurance will pay for the difference between the deductible and the actual cost of repairing the damage. For example, if a car covered by collision insurance is involved in an accident that results in $225 in damages and the owner's policy has a deductible of $50, the insurance company will pay for the remainder of $175 ($225 total repair cost minus $50 deductible). The last basic insurance coverage is known as comprehensive insurance. This insurance covers such things as damages caused by wind, water, theft, vandalism, and fire.

Insurance payments are known as premiums. The amount of a premium varies greatly because of different coverages that are available and because of location. Premiums vary from state to state as well as within each state. For example, a person living within a city will pay larger premiums for insurance than would a person living in a rural area. This is because there is a greater risk of an accident occurring within a city. Also, insurance companies raise premiums within specific areas if there is an increase in the total number of accidents. Insurance companies use rate tables to determine premiums to be paid by car owners. These rates vary according to coverage desired, type of automobile owned, and location.

In determining which type or types of insurance to buy and how much, consider the intended use of the automobile and who will be using it. Financial losses can be great as a result of an automobile accident if you are not properly covered by insurance. Make sure that your coverage is adequate!

Because of the complexity of automobile insurance and the great differences in premium rates and the procedures in determining these rates, there are no special problems to be presented in this section. Insurance premiums will be used in the next section in determining the total yearly expenses involved in operating an automobile.

Operating Expenses

Owning an automobile involves many other expenses besides the purchase price and insurance. Gas is a major expense. Other expenses are tires, oil, licenses, tags, batteries, spark plugs, other worn-out parts, and depreciation. These are expenses that we encounter frequently.

Another expense that may not be readily seen is the one previously discussed--depreciation. Even though we are unable to see it, as the value of the car decreases because of depreciation, we are absorbing the money loss as an expense; therefore, we must count depreciation as one of our total expenses.

Our last expense that we shall discuss is interest. If we borrow money to purchase an automobile, the interest on the borrowed money is an expense, also.

It is evident from the above discussion that owning a car involves a lot more than simply getting into one and driving it. Car ownership is a major responsibility, a responsibility that we should be sure we can handle before attempting it.

EXERCISES

1. George purchased a car for $4,700. His operating expenses for one year were as follows: gas and oil, $486; repairs and maintenance, $65; insurance premiums, $140; depreciation, $570; license tags, $10; interest on money borrowed to purchase the car, $329 (7% of $4,700). What is the total of George's operating expenses for the year?

2. Brenda Glover's employer tells her the company will pay for the use of her car if she will figure the monthly operating expenses for her car. She estimates that last year, her operating expenses were as follows: gas and oil, $475; insurance, $120; repairs and maintenance, $50; license plates, $16. What are her estimated monthly operating expenses for last year?

UNIT VI

REVIEW

1. Determine the annual depreciation for the following:

	New Cost	Trade-in Allowance	Years Owned
a.	$6,100	$2,000	3
b.	3,900	1,100	5
c.	4,650	1,600	4
d.	5,840	1,300	6

2. A car that has a total depreciation of $4,100 has a trade-in value of $950. What was the original cost of the car?

3. Jimmy Hastey purchased a new car five years ago for $4,600. He sold the car recently for $1,400. What was the annual depreciation on the car?

4. Karen Larson wishes to determine how much the operating expenses for her car are each month. She estimates her last year's expenses as the following: gas and oil, $320; tags, $24; repairs, $75; depreciation, $450; insurance, $250. What will her estimated monthly operating expenses be if she uses last year's estimates?

5. Kenneth Benson's operating expenses for last year were as follows: gas and oil, $520; insurance, $160; license plates, $18; repairs, $125; depreciation, $475. What were his average weekly operating expenses for last year?

"What does a millimeter longer really mean?"

UNIT VII

METRICS

The metric system is fast becoming the established method of stating measurements of weight, volume, distance, etc. The United States is one of the last major industrial nations left to convert to the metric system.

The present metric system being used around the world is the International System of Units, better known as SI. The system may be difficult to understand at first because we are not accustomed to using it. Yet, the metric system is much easier than our present English, or customary, system of measurement.

Conversion to the metric system will become necessary if the United States adopts the change to the metric system. Many large corporations are already adopting metrication--changing from the English system to the metric system. The greatest problem in learning metrics will be, of all things, forgetting our present system of measurement!

Metrics will eventually have an effect upon everyone. Certain jobs may reach the point of requiring a knowledge of metrics. Everyday items that we are involved with will change. For example, we will buy liters of gas instead of gallons. Distances will be measured in meters instead of inches, feet, or miles. Weights of items we buy will be measured in grams instead of ounces or pounds.

Let's look at some of the basic metric terms and common prefixes that will be used with these units. The three units that are used as base units are the meter (length), the liter (capacity), and the gram (weight). The four commonly used prefixes are milli- (one-thousandth, .001), centi- (one-hundredth, .01), deci- (one-tenth, .1), and kilo- (one thousand, 1,000). The metric system does not use different terms for measurements, such as inches, feet, ounces, or pounds. Instead, a compound word (two-part) is formed by using the previously mentioned prefixes and basic units of measurement. The first part of the word (prefix) tells us what size our measurement is. The second part of the word tells us what unit is being described (length, weight, or capacity). By combining these prefixes and basic units, we can determine metric units that will help us use the metric system for everyday living.

"I am 183 centimeters tall."

Length

The base unit that is used for measurement of length or distance is the meter. In comparing the meter with the yard, we find that the meter is 39.37 inches instead of 36 inches as is found in a yard. Using the prefixes of milli-, centi-, kilo-, and the meter as the base unit, we can determine three basic measurements of length--millimeter (one-thousandth of a meter), centimeter (one-hundredth of a meter), and kilometer (one thousand meters). For our discussion in this unit, we will omit the deci- prefix and devote our time to the remaining three which are used as common terms in everyday conversions to the metric system.

In converting from our customary system of measurement to the metric system, we must have measurements in both systems that are equal.

Below is a list of some of the common measurements in both the English and metric systems:*

English	Metric
1 inch is equal to	2.54 centimeters
1 inch is equal to	25.4 millimeters
1 foot is equal to	30.5 centimeters
1 foot is equal to	305 millimeters
1 yard is equal to	.9144 meters
1 mile is equal to	1.6 kilometers

Metric	English
1 centimeter is equal to	. 4 inches
1 millimeter is equal to	.04 inches
1 meter is equal to	1.1 yards
1 kilometer is equal to	.6 mile

By knowing the equivalent of a measurement in either system, you simply have to multiply the measurement that you know by its equivalent. For example, a measurement that is given as 4 feet may be converted to centimeters by multiplying by 30.5 (4 x 30.5 = 122 centimeters). By knowing the above common conversions, you should be able to obtain most everyday measurements using the metric system.

EXERCISES

1. Convert the following English measurements to the metric system equivalents:

   a. 3 inches equals _____ centimeters
   b. 3 inches equals _____ millimeters
   c. 18 inches equals _____ centimeters
   d. 18 inches equals _____ millimeters
   e. 4 feet equals _____ centimeters
   f. 4 feet equals _____ millimeters
   g. 5 yards equals _____ meters
   h. 11 miles equals _____ kilometers

*The conversion charts in this booklet represent approximate figures.

2. Convert the following metric measurements to the English system equivalents:

a. 27 centimeters equals _____ inches
b. 27 millimeters equals _____ inches
c. 156 meters equals _____ yards
d. 46 kilometers equals _____ miles

"I would like 40 liters of gas."

Capacity

In dealing with everyday measurements of capacity, our customary system uses the pint, quart, and gallon as standards of measurement. The metric system uses the liter as the standard measurement. When converting to metrics, we use two common units of metric measurement--the liter and the milliliter (one-thousandth of a liter).

As shown below in the liquid volume conversions from customary to metrics, the liter is a little larger than the quart. Let's look at the following conversions:

English	Metric
1 ounce is equal to	30 millliliters
1 pint is equal to	.47 liters
1 quart is equal to	.95 liters
1 gallon is equal to	3.8 liters

Metric	English
1 milliliter is equal to	.034 ounces (fluid)
1 liter is equal to	2.1 pints
1 liter is equal to	1.06 quarts
1 liter is equal to	.26 gallons

These conversions are some of the common measurements that will be used in our everyday living. Included in the appendix section of this booklet is a conversion chart that includes the above conversions as well as a conversion table of cooking measurements to show how our lives may be changed by the metric system! All liquids such as gas,

oil, paint, water, etc., will be measured in liters instead of ounces, pints, quarts, or gallons.

EXERCISES

1. Convert the following English measurements to the metric system equivalents:

   a. 2 ounces equals _____ milliliters
   b. 3 quarts equals _____ liters
   c. 1 pint equals _____ liters
   d. 5 gallons equals _____ liters

2. Convert the following metric measurements to the English system equivalents:

   a. 3 liters equals _____ pints
   b. 125 milliliters equals _____ ounces
   c. 16 liters equals _____ gallons
   d. 28 liters equals _____ quarts

"I weigh 48 kilograms."

Weight

The measurement of weight using the metric system involves two basic units--the gram and the kilogram (one-thousandth of a gram). The following conversion table shows the relationship between our English system of weight and the metric system:

Weight Measurement Conversions

1 ounce equals 28 grams
1 pound equals .45 kilograms
1 gram equals .035 ounces
1 kilogram equals 2.2 pounds
1 pound equals 454 grams

Thus, we are able to see a direct relationship between the ounce and the gram, and the pound and the kilogram. One gram is roughly four one-hundredths of an ounce. A pound is equal to approximately 454 grams. These measurements make up one of the more important parts of our everyday lives. Therefore, it will become increasingly important to be able to convert measurements of this type from one system to the other.

EXERCISES

1. Convert the following English weight measurements to metrics:

   a. 12 ounces equals _____ grams
   b. 8 ounces equals _____ grams
   c. 32 pounds equals _____ kilograms
   d. 19 pounds equals _____ kilograms

2. Convert the following metric measurements to English equivalents:

   a. 908 grams equals _____ pounds
   b. 100 grams equals _____ ounces
   c. 12 kilograms equals _____ pounds
   d. 135 kilograms equals _____ pounds

UNIT VII

REVIEW

1. A man walks for a distance of 9 kilometers. How many miles did he walk?

2. Henry Long's garage measures 20 feet by 22 feet. What would these measurements be in centimeters?

3. A desk is found to be 120 centimeters long and 60 centimeters wide. What is the measurement of the desk in inches?

4. Bill's watch needs a new band that is 200 millimeters in length. What length bend, in inches, does Bill need to buy?

5. How many gallons of gas will be bought to fill up a car which has a tank that holds 76 liters of gas?

6. A car requires 5 quarts of oil to fill it up. How many liters would be needed if the oil were sold only in liters?

7. A can of corn contains 280 grams. What would the equivalent weight be in ounces?

8. Linda wishes to purchase 40 pounds of beef for a cook-out. The beef is only sold in kilograms. How many kilograms of beef must she purchase?

9. Convert the following English measurements to metric equivalents:

   a. 8 miles equals _____ kilometers
   b. 30 inches equals _____ millimeters
   c. 10 quarts equals _____ liters
   d. 16 ounces equals _____ milliliters
   e. 7 pounds equals _____ kilograms
   f. 750 ounces equals _____ grams

10. Convert the following metric measurements to English equivalents:

a.	110 millimeters	equals	_____	inches
b.	25 meters	equals	_____	yards
c.	12 liters	equals	_____	pints
d.	50 liters	equals	_____	quarts
e.	70 liters	equals	_____	gallons
f.	160 grams	equals	_____	ounces
g.	84 kilograms	equals	_____	pounds

GENERAL REVIEW

1. What will be the total deposit for the following:
   Seven $20 bills
   Fifteen $10 bills
   Five $5 bills
   One $2 bill
   Three $1 bills
   Eighteen quarters
   Eleven dimes
   Four nickels
   One check for $18.50

2. Prepare a reconciliation statement for the following using your name and today's date in the heading:

Bank statement balance	$1,710.50
Checkbook balance	1,750.85
Service charge	2.00
Outstanding checks	
No. 135	6.65
No. 137	5.00
Deposit not recorded on bank statement	50.00

3. Kay Drakeford earns $2.80 per hour with time and a half being paid for overtime. Her regular work-week is 40 hours. Last week she worked a total of 45 hours. What were her gross earnings?

4. In problem Number 3, the following deductions were subtracted from Kay's check: income taxes, $19.50; FICA, $7.78; insurance, $1.50. What were her net earnings for the week?

5. Allen Paine is paid $.35 for every item he produces on his job. Last week he produced a total of 356 items. Deducted from his paycheck were the following items; income taxes, $18.70; FICA, $7.29. What were his net earnings for the week?

6. A new sofa that has a cash price of $360 may be purchased on installment by paying $50 down and $25 per month for 14 months. What is the finance charge if the sofa is bought on the installment plan?

7. What are the average monthly expenses on a home that last year had the following total expenses: payments, $3,000; repairs, $450; insurance and taxes, $520; utility bills, $1,050.

8. A grocery store has a sale on canned tomatoes, offering them at 4 cans for $1.00. The cans regularly sell for $.30 per can. How much will be saved by purchasing 12 cans of tomatoes while they are on sale rather than buying them individually?

9. A 24-ounce bottle of cooking oil may be purchased for $.96. A 48-ounce bottle of the same cooking oil may be purchased for $1.65. a. Which is cheaper per ounce? b. How much cheaper?

10. Determine the total cost of each of the following items:

	Cost	Sales Tax
a. Slacks	$14.95	4%
b. Sweater	18.50	5%
c. Dress	26.88	3%

11. Jake Toby owns property that has an assessed valuation of $8,500. The tax rate for the community that Jake lives in is $3.25 per $100 of assessed valuation. Find the property tax on Jake's property.

12. An automobile dealer allows $1,200 on a car that had an original cost of $5,400. The car is four years old. Determine the yearly depreciation on the car.

13. Harry's car expenses for last year were as follows: gas and oil, $625; insurance, $160; tags, $16; depreciation, $450; repairs, $80. a. What were his total operating expenses for the year? b. What was his average monthly operating expense?

14. A room that is 12 feet long is how many centimeters long?

15. Convert the following measurements:

a. 22 miles equals _____ kilometers
b. 9 feet equals _____ centimeters
c. 6 gallons equals _____ liters
d. 120 kilograms equals _____ pounds
e. 350 grams equals _____ ounces

APPENDIX

PARTIAL STANDARD DEDUCTION
TAX TABLE*

Table 1 - Returns claiming ONE exemption (and not itemizing deductions)

If line 15 (adjusted gross income) is --		And you are--	
		A.	B.
At least	But less than	Single not head of household	Head of household
		Your tax is --	
8,950	9,000	1,260	1,178
9,000	9,050	1,272	1,189
9,050	9,100	1,284	1,200
9,100	9,150	1,296	1,211
9,150	9,200	1,308	1,222
9,200	9,250	1,320	1,233
9,250	9,300	1,332	1,244
9,300	9,350	1,344	1,255
9,350	9,400	1,356	1,266
9,400	9,450	1,368	1,277
9,450	9,500	1,380	1,288
9,500	9,550	1,392	1,299
9,550	9,600	1,404	1,310
9,600	9,650	1,416	1,321
9,650	9,700	1,428	1,332
9,700	9,750	1,440	1,343
9,750	9,800	1,452	1,354
9,800	9,850	1,464	1,365
9,850	9,900	1,476	1,376
9,900	9,950	1,488	1,387
9,950	10,000	1,500	1,398
10,000	10,050	1,511	1,408
10,050	10,100	1,521	1,417
10,100	10,150	1,531	1,426
10,150	10,200	1,541	1,435
10,200	10,250	1,551	1,445
10,250	10,300	1,561	1,454
10,300	10,350	1,572	1,463
10,350	10,400	1,582	1,472
10,400	10,450	1,592	1,482
10,450	10,500	1,602	1,491
10,500	10,550	1,613	1,501
10,550	10,600	1,623	1,511
10,600	10,650	1,634	1,520
10,650	10,700	1,644	1,530
10,700	10,750	1,655	1,540

Table 1 - Continued

If line 15 (adjusted gross income) is --		And you are--	
		A.	B.
At least	But less than	Single not head of household	Head of household
		Your tax is --	
10,750	10,800	1,665	1,549
10,800	10,850	1,676	1,559
10,850	10,900	1,686	1,569
10,900	10,950	1,697	1,578
10,950	11,000	1,707	1,588
11,000	11,050	1,718	1,598
11,050	11,100	1,728	1,607
11,100	11,150	1,739	1,617
11,150	11,200	1,749	1,627
11,200	11,250	1,760	1,636
11,250	11,300	1,770	1,646
11,300	11,350	1,781	1,655
11,350	11,400	1,791	1,665
11,400	11,450	1,802	1,675
11,450	11,500	1,812	1,684
11,500	11,550	1,823	1,694

* Adapted from Federal Income Tax Return Booklet

PARTIAL STANDARD DEDUCTION
TAX TABLE*

Table 2 - Returns claiming TWO exemptions (and not itemizing deductions)

If line 15 (adjusted gross income) is --		And you are --		
At least	But less than	Single not head of household	Head of household	*Married filing joint return
		Your tax is --		
12,000	12,050	1,740	1,618	1,512
12,050	12,100	1,751	1,628	1,521
12,100	12,150	1,761	1,638	1,531
12,150	12,200	1,772	1,647	1,540
12,200	12,250	1,782	1,657	1,549
12,250	12,300	1,793	1,667	1,558
12,300	12,350	1,803	1,676	1,568
12,350	12,400	1,814	1,686	1,577
12,400	12,450	1,824	1,696	1,586
12,450	12,500	1,835	1,705	1,595
12,500	12,550	1,845	1,715	1,605
12,550	12,600	1,856	1,724	1,614
12,600	12,650	1,866	1,734	1,623
12,650	12,700	1,877	1,744	1,632
12,700	12,750	1,887	1,753	1,642
12,750	12,800	1,898	1,763	1,651
12,800	12,850	1,908	1,773	1,660
12,850	12,900	1,919	1,782	1,669
12,900	12,950	1,929	1,792	1,679
12,950	13,000	1,940	1,802	1,688
13,000	13,050	1,950	1,811	1,697
13,050	13,100	1,961	1,821	1,706
13,100	13,150	1,971	1,831	1,716
13,150	13,200	1,982	1,840	1,725
13,200	13,250	1,992	1,850	1,734
13,250	13,300	2,003	1,860	1,743
13,300	13,350	2,013	1,869	1,752
13,350	13,400	2,024	1,879	1,762
13,400	13,450	2,034	1,889	1,771
13,450	13,500	2,045	1,898	1,780
13,500	13,550	2,055	1,908	1,789
13,550	13,600	2,066	1,918	1,799
13,600	13,650	2,076	1,927	1,808

Table 2 - Continued

If line 15 (adjusted gross income) is --		And you are --		
At least	But less than	Single not head of household	head of household	*Married filing joint return
		Your tax is --		
13,650	13,700	2,087	1,937	1,817
13,700	13,750	2,098	1,947	1,826
13,750	13,800	2,109	1,958	1,836
13,800	13,850	2,121	1,968	1,845
13,850	13,900	2,132	1,979	1,854
13,900	13,950	2,143	1,989	1,863
13,950	14,000	2,155	2,000	1,873
14,000	14,050	2,166	2,010	1,882
14,050	14,100	2,177	2,021	1,891
14,100	14,150	2,189	2,031	1,900
14,150	14,200	2,200	2,042	1,910
14,200	14,250	2,211	2,052	1,919
14,250	14,300	2,223	2,063	1,928
14,300	14,350	2,234	2,073	1,937
14,350	14,400	2,245	2,084	1,947
14,400	14,450	2,259	2,096	1,956
14,450	14,500	2,272	2,109	1,965
14,500	14,550	2,286	2,121	1,974
14,550	14,600	2,299	2,134	1,983
14,600	14,650	2,313	2,146	1,993
14,650	14,700	2,326	2,159	2,002
14,700	14,750	2,340	2,171	2,011
14,750	14,800	2,353	2,184	2,020
14,800	14,850	2,367	2,196	2,030
14,850	14,900	2,380	2,209	2,039
14,900	14,950	2,394	2,221	2,048
14,950	15,000	2,407	2,234	2,057

* Adapted from Federal Income Tax Return Booklet

PARTIAL TAX RATE SCHEDULES*

SCHEDULE X - Single Taxpayers Not Qualifying for Rates in Schedule Y or Z

Over --	But not over --		of excess over --
$ 6,000	$ 8,000	$1,110 + 24%	$ 6,000
$ 8,000	$10,000	$1,590 + 25%	$ 8,000
$10,000	$12,000	$2,090 + 27%	$10,000
$12,000	$14,000	$2,630 + 29%	$12,000
$14,000	$16,000	$3,210 + 31%	$14,000
$16,000	$18,000	$3,830 + 34%	$16,000
$18,000	$20,000	$4,510 + 35%	$18,000

SCHEDULE Y - Married Taxpayers Filing Joint Returns and Certain Widows and Widowers

Over --	But not over --		of excess over --
$ 8,000	$12,000	$1,380 + 22%	$ 8,000
$12,000	$16,000	$2,260 + 25%	$12,000
$16,000	$20,000	$3,260 + 28%	$16,000

SCHEDULE Z - Unmarried (or legally separated) Taxpayers Who Qualify as Heads of Household

Over --	But not over --		of excess over --
$ 6,000	$ 8,000	$1,040 + 22%	$ 6,000
$ 8,000	$10,000	$1,480 + 23%	$ 8,000
$10,000	$12,000	$1,940 + 25%	$10,000
$12,000	$14,000	$2,440 + 27%	$12,000
$14,000	$16,000	$2,980 + 28%	$14,000
$16,000	$18,000	$3,540 + 31%	$16,000
$18,000	$20,000	$4,160 + 32%	$18,000

*Adapted from Federal Income Tax Return Booklet

MEASUREMENT CONVERSION TABLE
(Approximate)

Length	Known Measurement	Multiply By	To Determine
	inches	25.4	millimeters
	feet	30.5	centimeters
	yards	.9	meters
	miles	1.6	kilometers
	millimeters	.04	inches
	centimeters	.4	inches
	meters	1.1	yards
	kilometers	.6	miles
Capacity	fluid ounces	30	milliliters
	pints	.47	liters
	quarts	.95	liters
	gallons	3.8	liters
	milliliters	.034	fluid ounces
	liters	2.1	pints
	liters	1.06	quarts
	liters	.26	gallons
Weight	ounces	28	grams
	pounds	.45	kilograms
	grams	.035	ounces
	kilograms	2.2	pounds

Household Measurements

1 teaspoon	equals	4.9 milliliters
1 tablespoon	equals	14.8 milliliters
1 cup	equals	236.6 milliliters
1 pint	equals	473.2 milliliters
1 quart	equals	946.4 milliliters
1 gallon	equals	3.785 liters